

1. A thermal ink jet printing system comprising

a) a substrate pretreated with scrambling patterns, at least one of said patterns being absorbing under ultraviolet light and at least one of said patterns being absorbing under infrared light;

b) a colorless thermal ink jet ink composition having a carrier liquid comprising water; and a latent image recording material comprising a first component A of a color reacting pair A + B;

wherein information printed on said substrate with said colorless thermal ink jet ink composition comprising only first component A is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light, but is reactable with an activating composition comprising a second component B of said color reacting pair to produce a colored reaction product A + B which is visible to an unaided human eye in visible light.

2. A thermal ink jet printing system according to claim 1, which is one ink cartridge in a multiple ink cartridge system.

3. A thermal ink jet printing apparatus comprising:

a) a thermal ink jet printhead; and

b) one or more ink cartridges supplying ink to said thermal ink jet printhead, wherein at least one of said ink cartridges

comprises a colorless thermal ink jet ink printing system  
according to claim 1.

4. A thermal ink jet printing apparatus according to claim 3, which  
comprises a plurality of ink cartridges, one of said ink cartridges comprises said colorless  
thermal ink jet ink composition, and the remaining ink cartridges comprise ink which is  
visible to an unaided human eye in visible light when printed on a substrate.

5. A thermal ink jet printing apparatus according to claim 3, which is a  
computer printer.

6. A thermal ink jet printing apparatus according to claim 3, which is a  
facsimile machine.

7. A thermal ink jet printing apparatus according to claim 3, which is a  
photocopy machine.

8. A method for secure thermal ink jet printing on a substrate comprising:  
a) providing a substrate pretreated with scrambling patterns, at least one  
of said patterns being absorbing under ultraviolet light and at least one  
of said patterns being absorbing under infrared light;

- b) providing said colorless thermal ink jet ink composition comprising said first component A of said color reacting pair A + B;
- c) providing thermal ink jet printing information on a substrate with said colorless thermal ink jet ink composition;
- d) obtaining thereby printed information on said substrate which is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light; and
- e) reacting said printed information with an activating composition comprising a second component B of said color reacting pair to produce a colored reaction product A + B with printing information that is visible to an unaided human eye in visible light.

9. A method for secure thermal ink jet printing according to claim 8, which comprises thermal ink jet printing in selected areas of the substrate visible information which is visible to an unaided human eye in visible light and also printing in selected areas of the substrate invisible information which is invisible to an unaided human eye in visible light and undecipherable to an unaided human eye in infrared light and ultraviolet light.

10. A method for secure thermal ink jet printing according to claim 9, wherein visible information and invisible information are printed in a same selected area of the substrate.

11. A method for secure thermal ink jet printing according to claim 8, wherein said thermal ink jet printing is of a facsimile.

12. A method for secure thermal ink jet printing according to claim 8, wherein said thermal ink jet printing is of a photocopy.